

# AutoCAD Civil 3D 2015 Fundamentals

- Chapter 1 AutoCAD Civil 3D User Interface
  - 1.1 Lesson: Navigating the AutoCAD Civil 3D User Interface
    - 1.1.1 Navigating the AutoCAD Civil 3D Interface
  - 1.2 Lesson: Project Overview
- Chapter 2 Data Collection and Base Map Preparation
  - 2.1 Lesson: Importing GIS Data
    - 2.1.1 Importing ESRI Shapefiles
    - 2.1.2 Controlling the Display of Polygons
    - 2.1.3 Viewing GIS Attributes in AutoCAD
    - 2.1.4 Inserting a Registered Image (Rectified Aerial Photography)
    - 2.1.5 Adding the Project Area
    - Importing imagery
- Chapter 3 Preliminary Layout
  - 3.1 Lesson: Creating a Preliminary Existing Ground Surface
    - 3.1.1 Creating a Surface
    - 3.1.2 Adding Surface Data
    - 3.1.3 Changing the Surface Style to Control Display
    - 3.1.4 Using the Object Viewer
  - 3.2 Lesson: Creating a Preliminary Alignment
    - 3.2.1 Drafting the Preliminary Alignment Using Transparent Commands
  - 3.3 Lesson: Creating Points from an Alignment
    - 3.3.1 Establishing the Point Settings
    - 3.3.2 Setting Points on an Alignment
    - 3.3.3 Creating a Point Group
    - 3.3.4 Creating a Point Import/Export Format
    - 3.3.5 Exporting Points to an ASCII File
- Chapter 4 Creating a Survey Plan
  - 4.1 Lesson: Importing Survey Points
    - 4.1.1 Creating a Description Key Set
    - 4.1.2 Importing Points from an ASCII File
    - 4.1.3 Confirming the Description Keys Worked Properly
  - 4.2 Lesson: Working with Point Groups
    - 4.2.1 Locking Points and Group Properties
    - 4.2.2 Creating a Point Group for Property Corners
    - 4.2.3 Creating a Point Group for Center Line Points
    - 4.2.4 Creating a Point Group for Breakline Points
    - 4.2.5 Creating a Point Group for Tree Points
  - 4.3 Lesson: Controlling Point Display
    - 4.3.1 Creating Point Styles
    - 4.3.2 Creating Point Label Styles
    - 4.3.3 Controlling Point Display with Point Groups
    - 4.3.4 Controlling the Dragged State

- 4.3.5 Controlling Point Label Size in Model Space
    - 4.3.6 Controlling Point Group Display Order
  - 4.4 Lesson: Drawing Linework Using Transparent Commands
    - 4.4.1 Drawing Lines by Point Number
    - 4.4.2 Drawing Lines by a Range of Point Numbers
    - 4.4.3 Drawing Lines by Point Object
  - 4.5 Lesson: Working with Parcels
    - 4.5.1 Defining a Parcel from Existing Geometry
    - 4.5.2 Creating a Parcel Area Report
    - 4.5.3 Creating a Parcel Legal Description Report
  - 4.6 Lesson: Labeling Linework
    - 4.6.1 Labeling Parcel Lines
    - 4.6.2 Working with Parcel Segment Labels
    - 4.6.3 Creating a Line Tag Style
    - 4.6.4 Tagging Parcel Lines
    - 4.6.5 Creating a Line Table
    - 4.6.6 Creating a Parcel Area Table
    - 4.6.7 Labeling AutoCAD Objects
- Chapter 5- Building a Survey Quality Surface
  - 5.1 Lesson: Building Surfaces from Survey Data
    - 5.1.1 Creating a Point Group to Be Used As Surface Data
    - 5.1.2 Creating the Survey Surface
    - 5.1.3 Adding Point Group Data to a Surface
    - 5.1.4 Creating Breaklines by Point Number
    - 5.1.5 Creating Breaklines by Point Selection
    - 5.1.6 Adding Breaklines to the Surface
    - 5.1.7 Viewing the Surface
  - 5.2 Lesson: Editing Surfaces
    - 5.2.1 Editing Point Data
    - 5.2.2 Editing Breaklines
    - 5.2.3 Deleting Lines
    - 5.2.4 Pasting Surfaces
  - 5.3 Lesson: Surface Analysis
    - 5.3.1 Displaying Slope Arrows
    - 5.3.2 Elevation Banding
    - 5.3.3 Slope Analysis
  - 5.4 Lesson: Working with Contours
    - 5.4.1 Displaying a Surface as Contours
    - 5.4.2 Controlling Contour Display
    - 5.4.3 Labeling Contours
    - 5.4.4 Moving Contour Labels
    - 5.4.5 Deleting Contour Labels
    - 5.4.6 Labeling Only the Major Contours
    - 5.4.7 Editing Contour Labels
    - 5.4.8 Controlling Surface Display for Performance
- Chapter 6 Working with Alignments
  - 6.1 Lesson: Creating Alignments
    - 6.1.1 Default Curve Settings

- 6.1.2 Creating Tangents with Curves
  - 6.2 Lesson: Editing Alignments
    - 6.2.1 Editing Alignments Graphically
    - 6.2.2 Editing Alignments in Grid View
  - 6.3 Lesson: Working with Alignment Labels
    - 6.3.1 Working with Alignment Station Labels
    - 6.3.2 Changing the Stationing of an Alignment
    - 6.3.3 Labeling Station and Offset Values
    - 6.3.4 Creating Polyline Offsets of an Alignment
    - 6.3.5 Creating Offset Alignments
- Chapter 7 Working with Profiles
  - 7.1 Lesson: Creating Existing Ground Profiles
    - 7.1.1 Sampling and Drawing the Profile
    - 7.1.2 Changing the Profile View Style
    - 7.1.3 Creating a Profile View Style
    - 7.1.4 Creating Additional Profile Views
  - 7.2 Lesson: Creating Finished Ground Profiles
    - 7.2.1 Constructing the Finished Ground Centerline
    - 7.2.2 Editing the Profile Graphically
    - 7.2.3 Editing the Profile in Grid View
    - 7.2.4 Working with Profile Labels
    - 7.2.5 Adding Profile Labels
    - 7.2.6 Working with Profile View Bands
    - 7.2.7 Adding Profile View Bands
    - Add projections on to profiles
- Chapter 9 Pipes
  - 9.1 Lesson: Working with Pipe Networks in Plan
    - 9.1.1 Laying Out a Pipe Network
    - 9.1.2 Editing a Pipe Network in Plan
  - 9.2 Lesson: Working with Pipe Networks in Profile
    - 9.2.1 Adding a Pipe Network to a Profile
    - 9.2.2 Editing a Pipe Network in Profile
    - 9.2.3 Labeling a Pipe Network in Profile
    - Interference checking
- Chapter 10 Grading
  - 10.1 Lesson: Working with Grading Groups
    - 10.1.1 Creating a Grading Group
    - 10.1.2 Creating a Grading Object
    - 10.1.3 Creating a Grading Infill
    - 10.1.4 Reviewing Grading Group Properties
    - 10.1.5 Calculating Stage Storage
  - 10.2 Lesson: Volume Calculations
    - 10.2.1 Creating a Grid Volume Surface
    - 10.2.2 Creating a TIN Volume Surface
    - 10.2.3 Displaying Cut and Fill with Surface Styles
    - 10.2.4 Creating a Legend for Cut and Fill Depths
- Chapter 11 Data Shortcuts
  - 11.1 Lesson: Sharing Project Data with Data Shortcuts

- 11.1.1 Setting the Working Folder
- 11.1.2 Creating a Data Shortcut Project
- 11.1.3 Creating Data Shortcuts
- 11.1.4 Creating Data Shortcut References

If time allows

- Demo of Sewer Cad at end of class.
- Cover sheet set manager for publishing/plotting
  - Be sure to use IHS template when showing sheet sets.